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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,098	12/03/2003	Stephen Jay Sanderson	360-0012US.	4404

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EXAMINER	
LIE, ANGELA M	
ART UNIT	**PAPER NUMBER**
2163	

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/727,098	SANDERSON ET AL.	
	Examiner	Art Unit	
	Angela M. Lie	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *7-9* is/are allowed.

6)☒ Claim(s) *1-3,5,6,10-13,19 and 20* is/are rejected.

7)☒ Claim(s) *4 and 14-18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *(replacement) 04/03/2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The replacement drawings have been accepted and the objection has been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamai et al (US Patent 4851734).

As to claim 1 Hamai discloses an electroluminescent lamp comprising: a first section of transparent (Figure 5, element 1, top portion), electrically conductive material selectively patterned on a surface of a substrate (Figure 5, element 2); a second section of transparent (Figure 5, element 1, bottom portion), electrically conductive material selectively patterned on the surface of the substrate (Figure 5, element 2), wherein the second section of transparent, electrically conductive material is electrically isolated from first section of transparent, electrically conductive material (as shown in figure 5, the glass frame isolates two electrodes); a first integral fusible link (Figure 5, thinner portion of the element 4) between a first electrode input power contact (Figure 5, element 4) and the first section of transparent, electrically conductive material (Figure 5,

element 1, top portion); a second integral fusible link (Figure 5, thinner portion of the element 4, the bottom portion) between a second electrode input power contact (Figure 5, element 4, bottom part) and the second section of transparent, electrically conductive material (Figure 5, element 1, bottom portion); wherein the first fusible link or the second fusible link fails to allow current to flow if a certain level of current is exceeded (since fusible link (thinner portion of element 4) is thinner than the main power supplying wire (4), it allows certain voltage to pass through it which is smaller in magnitude than the voltage that could pass through the main connection (4), once overvoltage occurs i.e. more than the thinner portion or fusible link can withstand, this wire is likely to melt and in result no voltage can reach the rest of the circuitry).

As to claim 10, Hamai teaches an apparatus, which is inherently formed by the method, disclosed in claim 10.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2,3,5,6,11,12,19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamai et al (US Patent 4851734) in the view of Ikeda (US Publication 2003/0168967).

As to claims 2 and 11, Hamai teaches all the limitations disclosed in claim 1, however he does not teach that transparent conductive material comprises indium tin oxide (ITO). Ikeda teaches an EL sheet wherein a conventional EL sheet comprises a transparent electrode layer of indium tin oxide (paragraph 2, lines 3-4). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to incorporate Ikeda's teaching into Hamai's invention, and make a transparent electrode of indium tin oxide because this material is commonly used in EL displays and lamps, furthermore ITO can be precisely deposited on the substrate by electron-beam evaporation or sputtering (both well known in the art), this precise deposition is important especially when devices have to be produced in a small sizes, and in addition to all that ITO can withstand up to high temperatures for instance 500 degrees Celsius, which is very important feature because lamps heat up to very high temperatures (http://www.cerac.com/pubs/proddata/ito.htm).

As to claims 3 and 12, Hamai teaches all the limitations disclosed in claim 1, however he does not teach the substrate comprising polyethylene terephthalate. Ikeda teaches that a conventional EL sheet comprises a substrate made of polyethylene terephthalate (PET)(paragraph 2, lines 1-3). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to use Ikeda's teaching and make a transparent substrate of polyethylene terephthalate because polyethylene terephthalate can withstand high temperature (for instance it is often used in trays for oven use), it also has good strength and hardness. All those features are advantages in

a substrate used in an electroluminescent lamp, where temperatures reach high levels (http://www.designinsite.dk/htmsider/m0011.htm)

As to claims 5 and 19, Hamai teaches a fluorescent paint layer disposed on the surface of the transparent electrode. He does not teach however that this layer is a phosphor layer. Ikeda teaches that conventional electroluminescent sheet has a phosphor containing light emitting layer (paragraph 2, lines 8-9). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to use phosphor instead of fluorescent paint for the light emitting layer because phosphor is very well known in the art, and it is commonly used what makes it fairly inexpensive.

As to claims 6 and 20, Hamai and Ikeda teach all the limitations presented in claims 5 and 19 respectively, Hamai also teaches a dielectric layer (Figure 5, element 5, wherein air is also an example of dielectric) deposited onto the phosphor layer (instead of fluorescent paint as explained in justification for rejecting claims 5 and 19).

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamai et al (US Patent 4851734) in the view of Jabbour et al (Screen Printing for the Fabrication of Organic Light-Emitting Devices, IEEE 2001). Hamai teaches all the limitations disclosed in claim 10, but he does not teach that depositing a transparent, electrically conductive material onto a surface of a substrate comprises the step of screen printing the transparent, electrically conductive material onto selected portions of the substrate. Jabbour et al teach screen-printing method as an inexpensive and accurate method for fabricating light emitting devices (Abstract). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to

use screen printing method as taught by Jabbour et al, in order to deposit a transparent layer as taught by Hamai, because screen printing method is inexpensive and precise in depositing material in a specified area. (Abstract and Introduction).

Allowable Subject Matter

7. Claims 7-9 are allowed.

8. The following is an examiner's statement of reasons for allowance:

As to claim 7, the prior art fails to teach an electroluminescent lamp comprising: a first section of indium tin oxide, a second section of indium tin oxide, a carbon filled conductive composition, a phosphor layer, a dielectric layer, a first input power contact, a second input power contact, a first fusible link, a second fusible link, wherein all those elements are connected in the manner as disclosed in claim 7.

As to claims 8 and 9, those claims are allowed by the virtue of their dependency on claim 7.

9. Claims 4 and 14-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

As to claims 4 and 18, the prior art fails to teach an electroluminescent lamp as disclosed in claim 1, further comprising a carbon filled conductive composition deposited onto the transparent, electrically conductive material.

As to claim 14, the prior art fails to teach the method as disclosed in claim 10, wherein the step of depositing a transparent, electrically conductive material onto a surface of a substrate comprises the step of removing a portion of the transparent, electrically conductive material.

As to claims 15-17, those claims would be allowable by the virtue of their dependency on claim 14.

Response to Arguments

11. Applicant's arguments filed April 3, 2006 have been fully considered but they are not persuasive.

12. With respect to the applicant assertion on page 12, third paragraph stating that the Hamai fails to disclose an electroluminescent lamp instead he teaches the fluorescent lamp. Further the applicant conveys that the fluorescent lamp operates differently from the EL lamp and therefore the fusable link protection would not be useful in case of fluorescent lamp. The examiner disagrees with this statement. First of all, the claim language lists electroluminescent lamp in the preamble, however typical structural limitations are not presented so as to disqualify the fluorescent lamp. Preamble should be given a patentable weight when it is part of the structure of the invention, however in this case electroluminescent lamp looks more like intended use (lack of structural detail). Second of all, in contrast to what the applicant alleges, a fluorescent lamp needs the fusable protection similarly to the EL lamp (US Publication 20020101164, paragraph 46).

13. Furthermore with respect to the applicant's argument on page 13, first paragraph that Hamai fails to disclose the limitations "a first integral fusible link between a first electrode input power contact and the first section of transparent electrically conductive material" and "a second integral fusible link between a second electrode input power contact and the second of transparent, electrically conductive material". The examiner disagrees with the applicant. These limitations are referred to the specific elements in the prior art as stated in the rejection. The applicant did not state clearly which limitations were not taught by the reference instead, the applicant recited almost entire language of claim 1, and this in fact does not allow the examiner to address the specific issues regarding alleged missing limitations.

14. On the same page, in the third paragraph the applicant submits that the Examiner's suggestion about melting wire acting as fusable link does not satisfy anticipation requirement. The examiner admits that the words "likely to melt" were inappropriate in 102(b)-rejection language; instead the examiner should have use "will melt", as it would be the result of overvoltage. It is well know in the art that the fusible links or wires are often used to protect circuitry. This is the result of difference in resistances, i.e. higher resistivity wire would melt faster than the wire portion having lower resistance. Further, the wire with the smaller cross-section area would have higher resistance: R= (1/conductivity) * (l/S) wherein l is length of the wire and S is a cross-sectional area of the wire. Moreover, the applicant refers to the fusible link in his invention, which acts similarly to the process described above.

15. With respect to the applicant's assertion on page 15, second paragraph, stating that the examiner failed to establish prima facie case of obviousness because Jabbour is directed to LEDs and EL and LED are two different technologies, the examiner agrees that the EL and LED are two different types of lamps, however claim 13 specifically calls for depositing conductive material onto a surface, and this process step is used in many other technologies. The process of screen-printing is well known in the art. If this technology would have been used only for EL lamps this definitely would not be combinable, however this is not a case here.

16. Regarding the applicant's assertion also on page 15 that the examiner failed to establish prima facie case of obviousness in the remaining 103(a) rejections, the examiner disagrees with this statement. All of the 103(a) rejections are based in the references teaching all of the limitations, there is a motivation and also the combination has a reasonable probability of success.

The Prior Art

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent 4458177 discloses a flexible electroluminescent lamp device.
- US Patent 5976613 discloses a method of making an electroluminescent lamp.

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

19. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiry

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Angela M Lie

DON WONG
SUPERVISORY PATENT EXAMINER